

What is claimed is:

1. A dishwasher, comprising:

a case;

5 a rack installed in the case for accommodating the dishes;

a spray arm installed below the rack for spraying washing water;

a combined circulation/drain pump including an upper pump for repeatedly pressurizing and supplying the washing water to the spray arm and a lower pump for discharging the washing water; and

10 a filtering means for filtering the washing water, which includes a water collector formed below a bottom surface of the case and in a washing water flow passage connected to the combined circulation/drain pump, a filter provided in the water collector for filtering out garbage, a filter self-cleansing means for performing a self-cleansing operation of the filter, a garbage collecting chamber provided at below the bottom surface of the case and  
15 connected to both a washing water discharge port of the upper pump and a drain flow passage of the lower pump, a fine filter mounted on a top surface of the garbage collecting chamber for filtering out the garbage from the washing water discharged upward, and a fine filter self-cleansing means for performing a self-cleansing operation of the fine filter.

20 2. The dishwasher as claimed in claim 1, wherein the fine filter self-cleansing means includes an auxiliary nozzle attached on a bottom surface of the spray arm for separating the garbage adhered to the fine filter therefrom by spraying the washing water downward.

3. The dishwasher as claimed in claim 1, wherein the garbage collecting chamber  
25 further includes a dispersing means for preventing the garbage from building up just at one side of the fine filter by dispersing a flow of the washing water introduced into the chamber by means of an pressurizing operation of the upper pump.

4. The dishwasher as claimed in claim 1, wherein the garbage collecting chamber  
30 further includes a plurality of baffles for preventing the garbage from building up just at

one side of the fine filter by dispersing the washing water introduced into the chamber by means of an pressurizing operation of the upper pump.

5. The dishwasher as claimed in claim 1, wherein the combined circulation/drain pump further includes a driving motor and a pump casing connected to the driving motor, and wherein an inner space of the pump casing is divided into a circulating section connected to the washing water flow passage and a drain section connected to the drain flow passage so that the upper and lower pumps are installed in the circulating and drain sections, respectively.

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6. The dishwasher as claimed in claim 1, wherein the filter self-cleansing means includes a foreign material washing nozzle disposed outside the filter for spraying the washing water; an auxiliary discharge pipe having both ends connected to the foreign material washing nozzle and the upper pump, respectively, so that the washing water can be supplied to the foreign material washing nozzle; and a blocking barrier placed in the inside of the upper pump and supported by a specific vertex which the blocking barrier pivots in the direction the upper pump rotates in order to discharge the washing water pressurized by the upper pump to the auxiliary discharge pipe during a drain operation.

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7. The dishwasher as claimed in claim 6, wherein the blocking barrier has a shape of a triangular block so that it can quickly respond to a movement of a stream of water.

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8. The dishwasher as claimed in claim 1, wherein the lower pump is a friction pump.

9. A dishwasher, comprising:

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a case;

a rack installed in the case for accommodating the dishes;

a spray arm installed below the rack for spraying washing water;

a combined circulation/drain pump including an upper pump for repeatedly

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pressurizing and supplying the washing water to the spray arm and a lower pump for

discharging the washing water; and

a filtering means for filtering the washing water, which includes a water collector formed in a washing water flow passage for collecting the washing water at a bottom surface of the case and discharging the collected washing water to the combined circulation/drain pump, a filter provided in the water collector for filtering out garbage, and a filter self-cleansing means for performing self-cleansing operation of the filter.

10. The dishwasher as claimed in claim 9, wherein the filter self-cleansing means includes a spraying portion disposed outside the filter for spraying the washing water; a connecting portion with both ends connected to the spraying portion and the upper pump, respectively, so that the washing water can be supplied to the spraying portion; and an opening/closing portion, which is attached to the upper pump, closes during the washing operation and opens during the drain operation to discharge the washing water pressurized by the upper pump to the connecting portion during a drain operation.

11. The dishwasher as claimed in claim 9, wherein the filter includes a primary filter placed above the water collector, and a secondary filter placed below the primary filter for the purpose of filtering remaining garbage that has not been filtered while passing through the primary filter.

12. The dishwasher as claimed in claim 9, further comprising a washing water inlet port through which the washing water in the water collector can be flown into the upper pump during the washing operation, and a drain inlet port through which the washing water in the water collector can be flown into the lower pump during the drain operation.

13. A dishwasher, comprising:  
a case;  
a rack installed in the case for accommodating the dishes;  
a spray arm installed below the rack for spraying washing water;  
a combined circulation/drain pump including an upper pump for repeatedly

pressurizing and supplying the washing water to the spray arm and a lower pump for discharging the washing water; and

5 a filtering means for filtering the washing water, which includes a water collector formed in a washing water flow passage for collecting the washing water at a bottom surface within the case and discharging the collected washing water to the combined circulation/drain pump, a garbage collecting chamber provided below the bottom surface of the case and connected to both a washing water discharge port of the upper pump and a drain flow passage of the lower pump, a fine filter mounted on a top surface of the garbage collecting chamber for filtering out garbage from the washing water discharged upward, 10 and a fine filter self-cleansing means for performing a self-cleansing operation of the fine filter.

14. The dishwasher as claimed in claim 13, wherein the fine filter self-cleansing means includes an auxiliary nozzle formed on a bottom surface of the spray arm for 15 removing the garbage collected at the fine filter therefrom by spraying the washing water downward.

15. The dishwasher as claimed in claim 13, wherein the garbage collecting chamber further includes a dispersing means for preventing the garbage from building up just at one 20 side of the fine filter by dispersing a flow of the washing water that is strongly flown into the chamber from the upper pump.

16. The dishwasher as claimed in claim 13, wherein the garbage collecting chamber further includes a plurality of baffles for preventing the garbage from building up just at 25 one side of the fine filter by dispersing a flow of the washing water that is introduced into the chamber by means of an pressurizing operation of the upper pump.

17. The dishwasher as claimed in claim 13, wherein the combined circulation/drain pump further includes a driving motor and a pump casing connected to the driving motor, 30 and wherein an inner space of the pump casing is divided into a circulating section

connected to the washing water flow passage and a drain section connected to the drain flow passage so that the upper and lower pumps are installed in the circulating and drain sections, respectively.

5 18. The dishwasher as claimed in claim 13, wherein the water collector further includes a predetermined filter structure for filtering out the garbage.

19. The dishwasher as claimed in claim 13, further comprising:

10 a filtering means including the filter for the garbage contained in the washing water; and

a self-cleansing means for spraying the washing water toward the filtering means so that the garbage filtered out by means of the filter can be smoothly discharged.

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